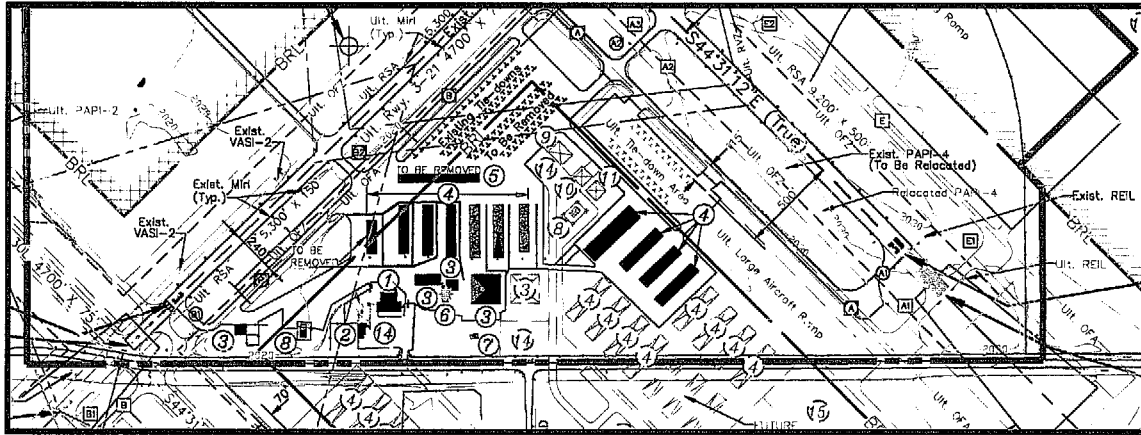




Chapter Five AIRPORT PLANS



AIRPORT PLANS



The airport master planning process has evolved through several analytic efforts, as described in the previous chapters, which were intended to analyze future aviation demand, establish airside and landside facility needs, and evaluate options for the future development of the airside and landside facilities. The recommended master plan concept did not fully evolve until the Planning Advisory Committee (PAC) and Pima County officials had the opportunity to submit detailed comments on the Airport Development Alternatives which were presented in Chapter Four. Following a review by the PAC and Pima County staff, the development alternatives have been refined into a single master plan concept intended to define the future use and development of Avra Valley Airport. The purpose of this chapter is to describe in narrative and graphic form this Master Plan Concept.

AIRPORT DESIGN STANDARDS

The design and safety standards pertaining to

airport facilities are based primarily upon the characteristics of the critical design aircraft expected to use the airport. The critical design aircraft is the most demanding aircraft or "family" of aircraft which will conduct 500 or more operations (take-offs and landings) per year at the airport. FAA *Advisory Circular 150/5300-13, Airport Design*, is the primary reference for the design of airfield facilities. Within this advisory circular, a coding system has been established that identifies an airport's critical design aircraft. This design aircraft code, referred to as the Airport Reference Code (ARC), is a function of the critical design aircraft's approach speed and wingspan. The ARC was previously discussed in Chapter Three.

As noted in Chapter One, Avra Valley Airport is identified as a reliever airport which serves the Tucson Metropolitan Area. Presently, all types of general aviation aircraft from single-engine piston to business jets utilize Avra Valley Airport. Single-engine piston aircraft, however, make up nearly 80 percent of current based aircraft. Throughout the 20 year planning period, these smaller general aviation

aircraft will continue to be the primary users of the Airport; although, future planning forecasts conducted and analyzed in Chapter Two suggest an increase in multi-engine, turboprop, and business jet activity at the Airport. Another factor to consider is the expressed interest of the Airport's largest FBO to attract even larger commercial size aircraft (e.g., B-737, B-727, DC-9) which would be serviced by a future large aircraft maintenance and/or storage facility. Additionally, military type C-130 aircraft conduct between 100 and 200 operations annually at Avra Valley Airport. In order to accommodate these larger aircraft, it was determined that main runway at Avra Valley Airport, Runway 12L-30R as well as Taxiway A, and Taxiway C should be planned for ARC C-III design standards. Runways 3-21 and 12R-30L, along with their associated taxiways would be designed for ARC B-II standards. Meanwhile, those areas of the Airport (e.g., taxiways, taxilanes, aprons) expected to cater to future business/corporate jet activity would be governed by ARC C-II standards. In Chapter Four, **Table 4A** summarized the planning standards for ARCs B-II, C-II, and C-III which were employed in the ultimate design and layout of the Airport.

MASTER PLAN CONCEPT

The Master Plan Concept includes the development necessary to accommodate the forecast demand at the airport through the planning period and includes improvements to both airside and landside facilities. The following provides a brief discussion of the major improvements planned for the airport through the planning period.

AIRFIELD DEVELOPMENT

The recommended master plan concept as illustrated on the **Airport Layout Plan (ALP)** drawing, includes extending Runway 12L-30R by 299 feet to a final length of 7,200 feet. This extension, to be constructed at the Runway 30 end, would provide additional takeoff length for the full-range of aircraft projected to use the airport in the future. Taxiway A, the parallel taxiway which services Runway 30 would be extended to match the Runway 30 extension. As discussed in Chapter Three, parallel Taxiway A along with it's related exit taxiways are scheduled for a widening and lighting project (Summer 1999) which had not been implemented at the time of this publication. The planned widening of these taxiways to 50 feet meets ARC C-III design requirements. A second full-length parallel taxiway, Taxiway E, is planned northeast of Runway 12L-30R to service the aviation related development area near the Runway 30 end. Taxiway E is basically a mirror image of Taxiway A and would be similarly marked and lighted. To further enhance runway safety and efficiency, high-speed exit taxiways are planned for Runway 12L-30R. Additionally, Taxiway C, which connects the northwest end of Taxiway A to Runway 3-21, Taxiway B, and the existing terminal area will be widened to 50 feet. Finally, in order to service heavier aircraft, a pavement strength rating of 150,000 pounds dual wheel gear (DWL) is recommended for both Runway 12L-30R, and all of it's associated taxiways, including Taxiway C.

Improvements to Runway 3-21 include extending the Runway 3 end 499 feet to the southwest. This 4,700 foot ultimate

runway length meets ARC B-II design standards as discussed in Chapter Three. Taxiway B would be extended to compliment Runway 3-21's new length. Although Runway 3-21 and it's associated taxiways current strength rating of 12,500 pounds SWL is adequate for the short term planning horizon, future planning calls for upgrading to 30,000 pounds DWL. This increased pavement strength rating would allow Runway 3-21 and it's related taxiways to accommodate the majority of smaller, corporate type aircraft expected to use the Airport in the future.

Consistent with ADOT's recommendations, a one-half mile visibility minimum Global Positioning System (GPS) approach is proposed for the Runway 12L end of Runway 12L-30R. This GPS approach will serve to reduce the amount of time that the airport is inaccessible due to low visibility and cloud ceilings and to enhance the safety of operations during these periods. The implementation of this one-half mile GPS approach requires the installation of a medium intensity approach lighting system (MALSR) which in turn necessitates the acquisition of additional property northwest of the Runway 12L end.

As discussed in Chapter Three, FAA guidelines detailed in FAA Advisory Circular 150/5060-5 *Airport Capacity and Delay*, the annual service volume (ASV) of a two runway, crosswind configuration similar to Avra Valley Airport normally exceeds 230,000 operations. The FAA recommends the consideration of a parallel runway when forecast annual operations exceed 60 percent of an airport's ASV. Airport operational forecasts for Avra Valley Airport, (see Chapter Three, **Table 3A**), indicated that the forecasts for the long term planning horizon

will be 150,000 annual operations or slightly more than 65 percent of the ASV. Based on this forecast percentage, long term planning should include the consideration of a runway parallel to the existing Runway 12L-30R. With a centerline-to-centerline separation distance of 3,200 feet from Runway 12L-30R, this new 4,700 foot long by 75 foot wide parallel runway would be designed to the same ARC B-II standards governing Runway 3-21, and would serve to increase the airport's operational capacity and reduce aircraft delays. The future designation of this runway would be Runway 12R-30L. A full-length parallel taxiway (Taxiway D), and related exit taxiways would be constructed along with Runway 12R-30L. The pavement strength rating for Runway 12R-30L and it's associated taxiways is proposed at 30,000 pounds DWL.

Finally, the extensions of both the existing runways, the location of the future parallel runway, as well as the related landside improvements (see Landside Development section) south of Avra Valley Road will necessitate the realignment of Avra Valley Road. These proposed improvements will also necessitate the closing of an approximately one-half mile section of Sandario Road. The length of the proposed Avra Valley Road realignment is approximately three miles, and is depicted, along with the future Avra Valley Road/Sandario Road intersection, on the Airport Layout Plan.

It is further recommended that one-mile visibility minimum GPS approaches be implemented for all remaining runway ends at Avra Valley Airport by the conclusion of the long-term planning period. Establishment of these GPS approaches are subject to airspace coordination with the FAA.

Airfield lighting and visual approach aids recommendations include: extend runway edge lighting (MIRL) on Runway 12L-30R and Runway 3-21; relocate runway end identification lights (REIL) for Runway 12L-30R; install REILs for Runway 3-21; relocate PAPIs for Runway 12L-30R; install pavement edge lighting (MITL) along all parallel taxiway and runway entrance/exit taxiways not currently equipped; installation of apron and aircraft parking area lighting where presently unavailable; and the installation of precision approach path indicators (PAPI) to all remaining runway ends, including the replacement of Runway 3-21's existing VASI system with PAPI-2s. All lighting, approach aid requirements, and pavement marking requirements for the future parallel Runway 12R-30L are identical to those proposed for Runway 3-21's ultimate condition.

LANDSIDE DEVELOPMENT

The recommended master plan concept proposes landside development both in and south of the existing terminal area. As shown on the ALP, located just east of the existing aircraft tie-down apron is a reserved general aviation terminal site and auto parking area. The existing tie-down area would be removed, due to runway visibility zone (RVZ) conflicts, and replaced by the proposed tie-down area that is shown on what is presently the large aircraft ramp. The future large aircraft ramp would be constructed southwest of the new tie-down area and would more than double the parking capacity of the existing ramp. Located southeast of the proposed terminal site is the future aircraft wash rack facility. Abutting the wash rack facility is a reserved site for a future airport rescue and firefighting (ARFF) facility.

Southwest of and adjacent to the ARFF site is the relocated fuel storage facility. As noted earlier in this section, the existing fuel storage area may require relocation due to RVZ conflicts with the proposed parallel runway. To meet long term T-Hangar requirements, the existing T-Hangar area southeast of the proposed terminal facility would be extended and further developed. This development would include extending the existing ramp, construction of 8 T-Hangar structures (± 96 units), reservation of space for future additional T-hangar structures, an access road and auto parking. Bordering the T-hangar development on the southeast would be six (6) aviation-related development parcels (± 25 total acres) having both ground and taxilane access. The T-Hangar structure directly north of TAC, Inc. would be removed/relocated to accommodate larger aircraft (ARC C-II) movements. As discussed in Chapter Three, the number of units displaced due to removal are accounted for in the proposed future T-Hangar developments. Near the center of the existing terminal area, a large hangar development lot is proposed next to an existing conventional hangar known as Hangar "D". Directly south of Hangar "D" is a proposed general parking area which could be used for overflow, employee, and/or event type parking. Additionally, development is proposed for the area south of both the airport parking area and Avra Valley Road. This area would be reserved for future T-Hangar (± 126 units) development, aircraft parking ramp, auto parking, and FBO site development. This future development would be adjacent to the proposed parallel runway. These areas, including the proposed terminal site, would be served by a future access road connecting either to the proposed Tangerine Road alignment or a realigned Avra Valley Road.

Other landside development items reflected on the ALP include the reservation of two aviation related development sites. The first of these development areas comprises 125 acres, and is located northeast of Runway 12L-30R near the Runway 30 end. The second area incorporates 277 acres, and borders the western edge of the existing airport property. Specific details of this second area have not been developed in order to maintain planning flexibility.

AIRPORT LAYOUT PLANS

The remainder of this chapter provides a brief description of the official layout drawings for the airport that will be submitted to the FAA and ADOT for review and approval. These plans, collectively referred to as the Airport Layout Plan Set, have been prepared to describe and graphically depict the applicable FAA design standards, the ultimate airfield layout, facility development, runway approach surfaces, runway protection zones, on-airport land use designations, the extent of the airport property, and the airport influence area. This set of plans include:

- Data Sheet
- Airport Layout Plan
- Terminal Area Plan
- Part 77 Airspace Plan
- Approach Profiles and Runway Protection Zone Plans
- On-Airport Land Use Plan
- Airport Property Map
- Airport Influence Area (AIA) Map

The airport layout plan set has been prepared on a computer-aided drafting (CAD) system for future ease of use and revision. This computerized plan set provides detailed

information of existing and future facility layout on multiple layers that permits the user to focus in on any section of the airport at a desirable scale. The plan can be used as base information for design, and can be easily updated in the future to reflect new development and more detail concerning existing conditions (as made available through design surveys). The airport layout plan set is submitted to the FAA for approval and must reflect all future development for which federal funding is anticipated. Otherwise, the proposed development will not be eligible for federal funding. Therefore, updating these drawings to reflect changes in existing and ultimate facilities is essential.

DATA SHEET

The Data Sheet provides location and vicinity maps as well as detailed airport and runway information which can be used to facilitate the interpretation of the Master Plan recommendations.

AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) graphically presents the existing and ultimate airport layout. Both airfield and landside facilities and improvements are illustrated.

TERMINAL AREA PLAN

The Terminal Area Plan presents greater detail concerning landside improvements and at a larger scale than the ALP. The Terminal Area Plan includes details concerning all landside development between existing Runway 12L-30R and ultimate Runway 12R-30L.

F.A.R. PART 77 AIRSPACE PLAN

To protect the airspace around the airport and approaches to each runway end from hazards that could affect the safe and efficient operation of aircraft arriving and departing the airport, Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, have been established for use by local authorities to control the height of objects near the airport. The Part 77 Airspace Plan included in this master plan is a graphic depiction of this regulatory criterion. The Part 77 Airspace Plan is a tool to aid local authorities in determining if proposed development could present a hazard to the airport and obstruct the approach path to a runway end. The following provides a discussion of the recommended FAR Part 77 airspace surfaces.

F.A.R. Part 77 Imaginary Surfaces

The Part 77 Airspace Plan assigns three-dimensional imaginary areas to each runway. These imaginary surfaces emanate from the runway centerline and are dimensioned according to the visibility minimums associated with the approach to the runway end and size of aircraft to operate on the runway. The Part 77 imaginary surfaces include the primary surface, approach surface, transitional surface, horizontal surface, and conical surface. Part 77 imaginary surfaces are described in the following paragraphs.

Primary Surface - The primary surface is an imaginary surface longitudinally centered on the runway. The primary surface extends 200 feet beyond each runway end. The elevation of any point on the primary surface is the same as the elevation along the nearest

associated point on the runway centerline. Under Part 77 regulations, the future primary surface width for Runway 12L-30R is 1,000 feet wide (ARC C-III), and 500 feet in width for Runways 3-21 and 12R-30L (ARC B-II).

Approach Surface - An approach surface is also established for each runway end. The approach surface begins at the same width as the primary surface and extends upward and outward from the primary surface end centered along an extended runway centerline. The approach surface for the future approach to Runway 12L at Avra Valley Airport extends 10,000 feet from the end of the primary surface at an upward slope of 50 to 1 with an additional 40,000 feet of slope of 40 to 1 to a width of 16,000 feet. Runway 30R's approach slope extends 10,000 feet from the end of the primary surface at an upward slope of 34 to 1 to a final width of 3,500 feet. For Runways 3-21 and 12R-30L, the approach surface extends 5,000 feet from the primary surface at an upward slope of 20 to 1 and terminating at a width of 1,500 feet.

Transitional Surface - Each runway has a transitional surface that begins at the outside edge of the primary surface at the same elevation as the runway. The transitional surface also connects with the approach surfaces of each runway. The surface rises at a slope seven to one up to a height which is 150 feet above the highest runway elevation. At that point, the transitional surface is replaced by the horizontal surface.

Horizontal Surface - The horizontal surface is established at 150 feet above the highest elevation of the runway surface. Having no slope, the horizontal surface connects the transitional and approach surfaces to the conical surface at a distance of 10,000 feet

radially from the end of the primary surface of each end of Runway 12L-30R. The perimeter of the horizontal surface is completed by connecting the 10,000 foot radii arcs at each runway end with lines tangent to those arcs.

Conical Surface - The conical surface begins at the outer edge of the horizontal surface. The conical surface then continues for an additional 4,000 feet horizontally at a slope of 20 to 1. Therefore, at 4,000 feet from the horizontal surface, the elevation of the conical surface is 350 feet above the highest airport elevation.

APPROACH PROFILES AND RUNWAY PROTECTION ZONES

The Approach Profiles and Runway Protection Zones depict that portion of the airspace surrounding Avra Valley Airport which directly relates to each runway end's respective approach surface. Though not as comprehensive as an F.A.R. Part 77 Airspace Plan drawing, these drawings do provide an accurate profile representation of the approach surfaces of each runway end as well as a definitive plan and profile illustration of the respective runway protection zone (RPZ) for each runway end.

The Approach Profiles depict physical features such as topography, roadways, railroads, trees, etc. that are within the vicinity of each runway end and which may affect the approach surface. The dimensions and angle (approach slope) of these approach surfaces are a function of the runway service category and approach classification. Runway Protection Zones, which are shown in both plan and profile on these drawings, are

defined as "*An area off the runway end to enhance the protection of people and property on the ground*" (FAA Advisory Circular 150/5300-13 Chg. 5). Like the Approach Profiles, the Runway Protection Zones Plans and Profiles are used to identify physical features which may affect the approach surface of each particular runway end. The dimensions and extents of each runway's approach surface were previously described under the section detailing the Part 77 Airspace Plan drawing.

Like the approach surfaces, the runway protection zones are based on approach visibility minimums (i.e., one-mile, less than 3/4-mile, etc.), and the aircraft approach category (A, B, C, D, etc.). Again, similar to the approach surfaces, the RPZs are trapezoidal in shape and begin 200 feet off each runway end. The ultimate RPZ dimensions for Runway 12L are 1,000 feet (inner width) by 2,500 feet (length) by 1,750 feet (outer width) while Runway 30R's dimensions are 500 feet (inner width) by 1,700 feet (length) by 1,510 feet (outer width). Runways 3-21 and 12R-30L measure 500 feet (inner width) by 1,000 feet (length) by 700 feet (outer width). All of the ultimate RPZs are to be regulated through future fee acquisition or avigation easement acquirement.

ON-AIRPORT LAND USE PLAN

The purpose of the On-Airport Land Use Plan is to coordinate uses of airport property in manner which are compatible with the functional design of the airport facility. On-airport land use planning is important for orderly development and efficient use of available space.

Airport land use planning has two primary considerations: one, to secure those areas essential to the safe and efficient operation of the airport; and, two, to determine compatible land uses for the balance of the airport property which would prove most beneficial to both the airport and the surrounding community. This plan reflects recommended land use development areas for the airport. When future airport development is proposed it should be directed to the appropriate land use area illustrated on this plan.

Four land use categories have been identified which include airport operations area, general aviation areas, commercial/industrial aviation related, and open space. These categories are discussed in the following subsections:

Airport Operations Area (AO) - The airfield operations is the most critical category of land use because it includes all areas essential for safe operation involving the airside of the Airport. Encompassing more than just the physical runways and taxiways, the AO includes the following areas: runway/ taxiway safety areas, runway/taxiway object free and obstacle free zones, runway inner approach surfaces, building restriction lines, runway primary surface, runway protection zones, runway visibility zones, and any navaid critical areas.

Aviation Related (AR) - This category allocates space for aviation related businesses requiring direct airfield access. Areas reflected on this plan include the two previously

discussed aviation related development areas as well as the "Future Industrial Park" (± 34 acres) located south of Avra Valley Road. The successful development of these areas will require taxiway access.

General Aviation (GA) - The general aviation areas consists of those facilities which provide for general aviation fueling, maintenance, and aircraft storage and parking. This category comprises the proposed development in the existing terminal area as well as the areas south of the existing airport parking area and Avra Valley Road which are reserved for future T-Hangar (± 126 units), aircraft parking ramp, auto parking, and FBO site development. This future development is adjacent to the proposed parallel runway.

Open Space (OS) - Due to factors such as topography constraints, design and safety considerations, drainage retention areas, or the like, these designated areas are to remain free of development.

AIRPORT PROPERTY MAP

The Property Map provides historical information on the acquisition and identification of all land tracts that constitute current Airport property. The property map for Avra Valley Airport depicts the Airport both graphically and in legal terms as to both its present configuration as well as its historical description from the time the County acquired the Airport in the mid-1970s.

AIRPORT INFLUENCE AREA (AIA) MAP

In 1997, the State of Arizona enacted legislation which gives governing bodies and local communities the ability to establish Airport Influence Areas (AIA) to aid in notifying owners and potential purchasers of property that they are in an area that is subject to aircraft noise and overflight. The AIA legislation gives these entities discretion in establishing which property to include in the AIA. Pima County and other local authorities are required to give notice and hold hearings on their respective AIA proposals. Once an AIA is established and after public notice and hearings, the Airport Influence Area is recorded with the County Recorder.

To control the encroachment of future development on the Airport, Pima County, as the Airport sponsor, should consider establishing an official AIA for Avra Valley Airport. It is recommended that an AIA for Avra Valley Airport consist of the Part 77 horizontal surface. As shown on the **Airport Influence Area (AIA) Map**, the horizontal surface extends for a radius of 10,000 feet beyond each end of Runway 12L-30R.

SUMMARY

The Airport Layout Plan Set is designed to assist Pima County in making decisions relative to future development and growth at Avra Valley Airport. The plan provides for development to satisfy expected airport needs over the next twenty years and beyond. Flexibility will be a key to future development since activity may not occur exactly as forecast. The plan has considered demands that could be placed upon the Airport even beyond the twenty-year planning period to ensure that the facility is capable of accommodating a variety of circumstances. The F.A.R. Part 77 Airspace Plan and the Airport Influence Area (AIA) Map should be used as tools to ensure land use compatibility and restriction of the heights of future structures or antennae which could pose a potential hazard to air navigation. The Airport Layout Plan Set also provides Pima County with options in marketing the assets of the Airport for community development. Following the general recommendations of the plan, the Airport can maintain its long term viability and continue to provide aviation services to the region.



AIRPORT MASTER PLAN

Town of Marana, Arizona

AIRPORT LAYOUT PLAN SET

INDEX OF DRAWINGS

1. Data Sheet
2. Airport Layout Plan
3. Terminal Area Plan
4. Part 77 Airspace Plan
5. Approach Profiles & Runway Protection Zones
Runway 12L-30R
6. Approach Profiles & Runway Protection Zones
Runway 3-21 and Runway 12R-30L
7. On-Airport Land Use Plan
8. Airport Property Map
9. Airport Influence Area (AIA) Map

Prepared for
Pima County, Arizona

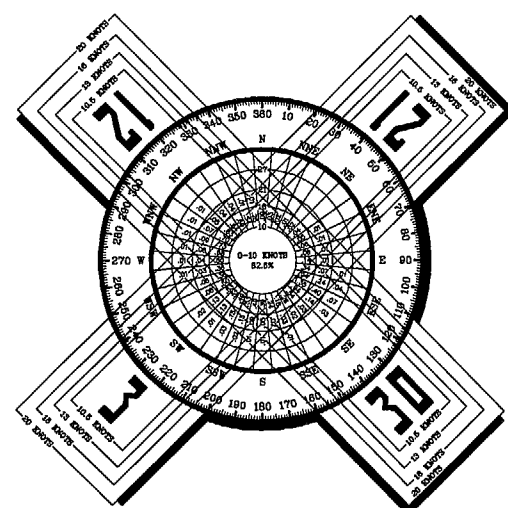


AIRPORT DATA			
AVRA VALLEY AIRPORT (E14)			
CITY: MARANA, ARIZONA		COUNTY: PIMA COUNTY, ARIZONA (OWNER)	
RANGE: R. 11 E.		TOWNSHIP: T. 12 S.	CIVIL TOWNSHIP: N/A
		EXISTING	ULTIMATE
NATIONAL PLAN of INTEGRATED AIRPORT SYSTEMS (NPIAS) SERVICE LEVEL		RELIEVER (RL)	SAME
AIRPORT CATEGORY		GENERAL AVIATION	SAME
DESIGN AIRCRAFT		GULFSTREAM III	B737-300
AIRPORT REFERENCE CODE (ARC): RUNWAY CATEGORY/DESIGN GROUP		C-II	C-III
AIRPORT ELEVATION (ABOVE MEAN SEA LEVEL)		2031'	2032'
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		102.8 (July)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)		Latitude 32°24'38.81"N	32°24'28.67"N
		Longitude 111°13'06.63"W	111°13'11.51"W
AIRPORT and TERMINAL NAVIGATIONAL AIDS		ROTATING BEACON	SAME
		NDB	SAME
		AWOS III	SAME
GPS APPROACH		NO	YES (RWY. 12L)

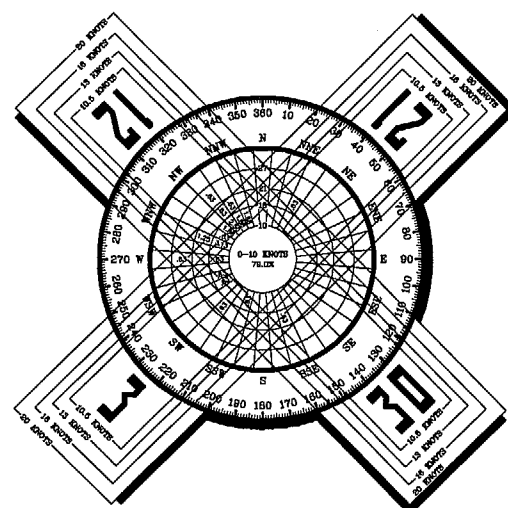
DEVIATIONS FROM FAA AIRPORT DESIGN STANDARDS				
DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	EXISTING	PROPOSED DISPOSITION
NONE		--	--	

EXISTING		ULTIMATE (CALCULATED)
RUNWAY 03	Latitude	32°24' 10.25" N
	Longitude	111°13' 24.91" W
DISPLACED THRESHOLD RUNWAY 03	Latitude	32°24' 12.05" N
	Longitude	N/A
RUNWAY 21	Latitude	111°13' 22.75" W
	Longitude	32°24' 39.40" N
RUNWAY 12R	Latitude	111°12' 49.99" W
	Longitude	NA
RUNWAY 30L	Latitude	NA
	Longitude	NA
RUNWAY 12L	Latitude	32°25' 03.62" N
	Longitude	111°13' 34.36" W
RUNWAY 30R	Latitude	32°24' 14.93" N
	Longitude	111°12' 37.91" W

NOTE: EXISTING RUNWAY COORDINATES (LAT/LONGS) AND ELEVATIONS ARE FROM A FIELD SURVEY CONDUCTED IN JUNE 1969 BY THE PINA COUNTY DOT SURVEY DIVISION. OTHER LAT/LONG COORDINATES AND ELEVATIONS LABELED AS CALCULATED WERE COMPUTED FROM THE ABOVE REFERENCED SURVEYED POINTS USING THE "GEODEIC CALCULATOR" PROGRAM (v) 1.70, WRITTEN BY THOMAS A. HILGUST, JANUARY 1989. AS WELL AS FROM EXISTING AIRPORT RECORDS AND ANY LAT/LONG COORDINATES AND ELEVATIONS PERTAINING TO FUTURE FACILITIES CONSTRUCTION ARE SUBJECT TO FIELD VERIFICATION AND REVISION BASED UPON ACTUAL FIELD CONDITIONS WHICH MAY ENCOUNTERED DURING FUTURE AIRPORT CONSTRUCTION ACTIVITIES.



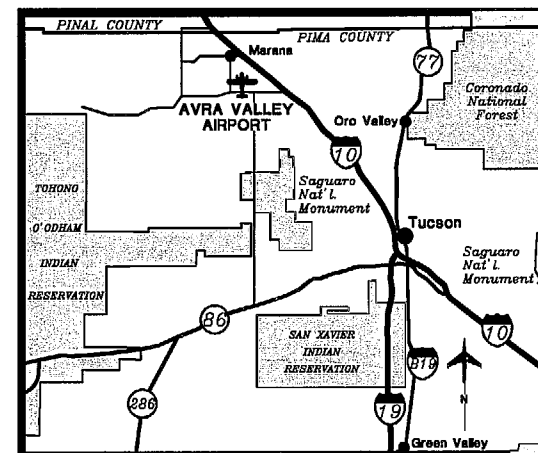
ALL WEATHER WIND COVERAGE				
RUNWAYS	10.5 KNOTS (12 MPH)	13 KNOTS (15 MPH)	16 KNOTS (18 MPH)	20 KNOTS (23 MPH)
Runway 3-21	99.9%	99.7%	99.34%	99.62%
Runway 12-30	94.83%	97.12%	99.03%	99.76%
Combined	98.9%	99.6%	99.8%	100.0%



IFR CAT-I WIND COVERAGE				
RUNWAYS	10.6 KNOTS (19 MPH)	13 KNOTS (16 MPH)	16 KNOTS (18 MPH)	20 KNOTS (23 MPH)
Runway 3-21	83.82%	88.64%	95.16%	98.42%
Runway 12-30	95.02%	96.64%	97.62%	99.05%
Combined	99.21%	99.38%	99.56%	100.00%

RUNWAY DATA	RUNWAY 3-21		RUNWAY 12R-30L		RUNWAY 12L-30R	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
RUNWAY CATEGORY/AIRCRAFT DESIGN GROUP	B-I	B-II	---	B-II	C-II	C-III
RUNWAY AZIMUTH	45.09917	SAME	---	134.520	134.520	SAME
RUNWAY BEARING	N45°05'57" E	SAME	---	S44°31'12" E	S44°31'12" E	SAME
RUNWAY DIMENSIONS	4201' X 75'	4700' X 75'	---	4700' X 75'	8901' X 100'	7200' X 100'
MAXIMUM RUNWAY ELEVATION (above MSL)	2024.6'	SAME	---	2019'	2031.3'	2032.3'
WIND COVERAGE (tn %)	SEE ALL WEATHER AND IFR WIND ROSE DATA BELOW LEFT					
APPROACH VISIBILITY MINIMUMS	+1 MILE/+1 MILE	SAME/SAME	---	+1 MILE/+1 MILE	+1 MILE/+1 MILE	+1/2-MILE/+1-MILE
FAR PART 77 CATEGORY	VISUAL/VISUAL	SAME/SAME	---	VISUAL/VISUAL	VISUAL/VISUAL	PREC./NONPREC.
RUNWAY INSTRUMENTATION	VISUAL/VISUAL	SAME/SAME	---	VISUAL/VISUAL	VISUAL/VISUAL	PREC./NONPREC.
RUNWAY APPROACH SURFACES	20:1/20:1	SAME/SAME	---	20:1/20:1	20:1/20:1	60:1/20:1
RUNWAY THRESHOLD DISPLACEMENT	260'	NONE	---	NONE	NONE	SAME
RUNWAY STOPWAY	NONE	NONE	---	NONE	NONE	SAME
RUNWAY SAFETY AREA (RSA)	4681' X 120'	6900' X 150'	---	6300' X 150'	8901' X 600'	9200' X 500'
RSA DISTANCE BEYOND EACH RUNWAY END	240'	300'	---	300'	1000'	1000'
RUNWAY OBJECT FREE AREA (OFA)	4681' X 400'	6900' X 500'	---	6300' X 500'	8901' X 800'	9200' X 800'
RUNWAY OBSTACLE FREE ZONE (OFZ)	4601' X 400'	6100' X 450'	---	7301' X 400'	7600' X 400'	7600' X 400'
TAKEOFF RUN AVAILABLE (TORA)	3901' /4201'	4700' /4700'	---	4700' /4700'	6901' /6901'	7200' /7200'
TAKEOFF DISTANCE AVAILABLE (TODA)	3901' /4201'	4700' /4700'	---	4700' /4700'	6901' /6901'	7200' /7200'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	3901' /4201'	4700' /4700'	---	4700' /4700'	6901' /6901'	7200' /7200'
LANDING DISTANCE AVAILABLE (LDA)	3901' /4201'	4700' /4700'	---	4700' /4700'	6901' /6901'	7200' /7200'
RUNWAY PAVEMENT MATERIAL	ASPHALTIC CONCRETE	SAME	---	ASPHALTIC CONCRETE	ASPHALTIC CONCRETE	SAME
PAVEMENT SURFACE TREATMENT	NONE	SAME	---	NONE	NONE	SAME
PAVEMENT STRENGTH (tn thousand lbs.) ¹	12.5(S)	30(D)	---	30(D)	12.5(S)	138.5(D)
RUNWAY EFFECTIVE GRADIENT (tn %)	0.23	SAME	---	0.15	0.29	0.30
RUNWAY LIGHTING	MIRL	SAME	---	MIRL	MIRL	SAME
RUNWAY MARKING	VISUAL/VISUAL	SAME	---	VISUAL/VISUAL	VISUAL/VISUAL	PREC./NONPREC.
RUNWAY APPROACH LIGHTING	NONE	SAME	---	NONE	NONE	MALSR
TAXIWAY PAVEMENT MATERIAL	ASPHALT	SAME	---	ASPHALT	ASPHALT	SAME
TAXIWAY LIGHTING	NONE	MITL	---	MITL	NONE	MITL
TAXIWAY MARKING	CENTERLINE/EDGE	SAME	---	CENTERLINE/EDGE	CENTERLINE	CENTERLINE/EDGE
NAVIGATIONAL AIDS	NDB	PAPI-2 (BOTH)	---	NDB	NDB	SAME
	---	---	---	---	---	---
	---	---	---	---	---	---
	---	---	---	---	---	---
VISUAL AIDS	VASI-2 (BOTH)	SAME	---	PAPI-2 (BOTH)	PAPI-4 (BOTH)	SAME
	---	REIL (Both)	---	REIL (BOTH)	REIL (BOTH)	SAME
	---	---	---	---	---	CPS (RWY. 12L)
	---	---	---	---	---	---

NOTE: EXISTING OBJECT FREE AREAS FOR RUNWAY 12-30 THAT EXTEND OFF-AIRPORT ARE PRESENTLY UNREGULATED.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

SHEET 1 OF 9

Coffman
Associates
Airport Consultants

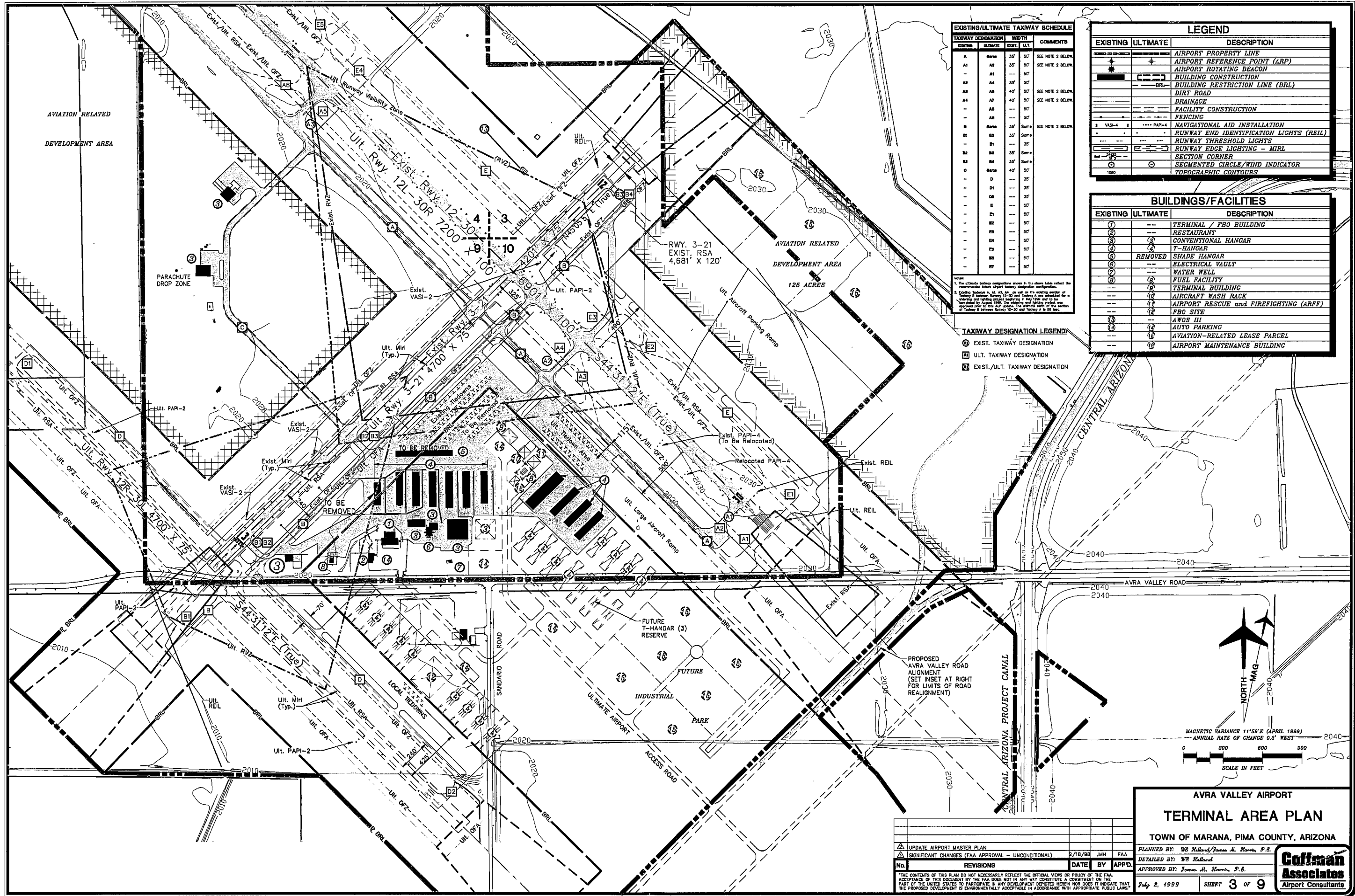
GENERAL NOTES:

- This drawing is a composite based on aerial photography as flown on August 28, 1987 and May 11, 1988, and the previously FAA approved AIRPORT LAYOUT PLAN dated February 18, 1989 as well as additional drawings and information supplied by various government agencies. All information should be field verified prior to final engineering or construction.
- Depiction of features and objects, including related elevations within the runway protection zones are depicted on the APPROACH PROFILES AND RUNWAY PROTECTION ZONES PLANS.
- Details concerning terminal improvements are depicted on the TERMINAL AREA PLAN.
- Building Restriction Lines (BRL) are established to provide Part 77 clearance for a 35-foot object at the BRL. The BRL may be reduced to the limits of the Runway Object Free Area and Runway Protection Zone.
- A review of the Pima County Recorder Office Property Records revealed no existing aviation easement records for those portions of the existing RPTs for Runways 3-21 and 30 which extend beyond the existing Avra Valley Airport property boundary.

EXISTING/ULTIMATE TAXIWAY SCHEDULE

TAXIWAY DESIGNATION	WIDTH		COMMENTS
	EXISTING	ULTIMATE	
A1	Same	35'	SEE NOTE 2 BELOW.
A2	Same	35'	SEE NOTE 2 BELOW.
A3	Same	35'	SEE NOTE 2 BELOW.
A4	Same	35'	SEE NOTE 2 BELOW.
A5	Same	35'	SEE NOTE 2 BELOW.
A6	Same	35'	SEE NOTE 2 BELOW.
A7	Same	35'	SEE NOTE 2 BELOW.
A8	Same	35'	SEE NOTE 2 BELOW.
A9	Same	35'	SEE NOTE 2 BELOW.
B	Same	35'	SEE NOTE 2 BELOW.
B1	Same	35'	SEE NOTE 2 BELOW.
B2	Same	35'	SEE NOTE 2 BELOW.
B3	Same	35'	SEE NOTE 2 BELOW.
B4	Same	35'	SEE NOTE 2 BELOW.
B5	Same	35'	SEE NOTE 2 BELOW.
B6	Same	35'	SEE NOTE 2 BELOW.
B7	Same	35'	SEE NOTE 2 BELOW.
B8	Same	35'	SEE NOTE 2 BELOW.
B9	Same	35'	SEE NOTE 2 BELOW.
B10	Same	35'	SEE NOTE 2 BELOW.
B11	Same	35'	SEE NOTE 2 BELOW.
B12	Same	35'	SEE NOTE 2 BELOW.
B13	Same	35'	SEE NOTE 2 BELOW.
B14	Same	35'	SEE NOTE 2 BELOW.
B15	Same	35'	SEE NOTE 2 BELOW.
B16	Same	35'	SEE NOTE 2 BELOW.
B17	Same	35'	SEE NOTE 2 BELOW.
B18	Same	35'	SEE NOTE 2 BELOW.
B19	Same	35'	SEE NOTE 2 BELOW.
B20	Same	35'	SEE NOTE 2 BELOW.
B21	Same	35'	SEE NOTE 2 BELOW.
B22	Same	35'	SEE NOTE 2 BELOW.
B23	Same	35'	SEE NOTE 2 BELOW.
B24	Same	35'	SEE NOTE 2 BELOW.
B25	Same	35'	SEE NOTE 2 BELOW.
B26	Same	35'	SEE NOTE 2 BELOW.
B27	Same	35'	SEE NOTE 2 BELOW.
B28	Same	35'	SEE NOTE 2 BELOW.
B29	Same	35'	SEE NOTE 2 BELOW.
B30	Same	35'	SEE NOTE 2 BELOW.
B31	Same	35'	SEE NOTE 2 BELOW.
B32	Same	35'	SEE NOTE 2 BELOW.
B33	Same	35'	SEE NOTE 2 BELOW.
B34	Same	35'	SEE NOTE 2 BELOW.
B35	Same	35'	SEE NOTE 2 BELOW.
B36	Same	35'	SEE NOTE 2 BELOW.
B37	Same	35'	SEE NOTE 2 BELOW.
B38	Same	35'	SEE NOTE 2 BELOW.
B39	Same	35'	SEE NOTE 2 BELOW.
B40	Same	35'	SEE NOTE 2 BELOW.
B41	Same	35'	SEE NOTE 2 BELOW.
B42	Same	35'	SEE NOTE 2 BELOW.
B43	Same	35'	SEE NOTE 2 BELOW.
B44	Same	35'	SEE NOTE 2 BELOW.
B45	Same	35'	SEE NOTE 2 BELOW.
B46	Same	35'	SEE NOTE 2 BELOW.
B47	Same	35'	SEE NOTE 2 BELOW.
B48	Same	35'	SEE NOTE 2 BELOW.
B49	Same	35'	SEE NOTE 2 BELOW.
B50	Same	35'	SEE NOTE 2 BELOW.
B51	Same	35'	SEE NOTE 2 BELOW.
B52	Same	35'	SEE NOTE 2 BELOW.
B53	Same	35'	SEE NOTE 2 BELOW.
B54	Same	35'	SEE NOTE 2 BELOW.
B55	Same	35'	SEE NOTE 2 BELOW.
B56	Same	35'	SEE NOTE 2 BELOW.
B57	Same	35'	SEE NOTE 2 BELOW.
B58	Same	35'	SEE NOTE 2 BELOW.
B59	Same	35'	SEE NOTE 2 BELOW.
B60	Same	35'	SEE NOTE 2 BELOW.
B61	Same	35'	SEE NOTE 2 BELOW.
B62	Same	35'	SEE NOTE 2 BELOW.
B63	Same	35'	SEE NOTE 2 BELOW.
B64	Same	35'	SEE NOTE 2 BELOW.
B65	Same	35'	SEE NOTE 2 BELOW.
B66	Same	35'	SEE NOTE 2 BELOW.
B67	Same	35'	SEE NOTE 2 BELOW.
B68	Same	35'	SEE NOTE 2 BELOW.
B69	Same	35'	SEE NOTE 2 BELOW.
B70	Same	35'	SEE NOTE 2 BELOW.
B71	Same	35'	SEE NOTE 2 BELOW.
B72	Same	35'	SEE NOTE 2 BELOW.
B73	Same	35'	SEE NOTE 2 BELOW.
B74	Same	35'	SEE NOTE 2 BELOW.
B75	Same	35'	SEE NOTE 2 BELOW.
B76	Same	35'	SEE NOTE 2 BELOW.
B77	Same	35'	SEE NOTE 2 BELOW.
B78	Same	35'	SEE NOTE 2 BELOW.
B79	Same	35'	SEE NOTE 2 BELOW.
B80	Same	35'	SEE NOTE 2 BELOW.
B81	Same	35'	SEE NOTE 2 BELOW.
B82	Same	35'	SEE NOTE 2 BELOW.
B83	Same	35'	SEE NOTE 2 BELOW.
B84	Same	35'	SEE NOTE 2 BELOW.
B85	Same	35'	SEE NOTE 2 BELOW.
B86	Same	35'	SEE NOTE 2 BELOW.
B87	Same	35'	SEE NOTE 2 BELOW.
B88	Same	35'	SEE NOTE 2 BELOW.
B89	Same	35'	SEE NOTE 2 BELOW.
B90	Same	35'	SEE NOTE 2 BELOW.
B91	Same	35'	SEE NOTE 2 BELOW.
B92	Same	35'	SEE NOTE 2 BELOW.
B93	Same	35'	SEE NOTE 2 BELOW.
B94	Same	35'	SEE NOTE 2 BELOW.
B95	Same	35'	SEE NOTE 2 BELOW.
B96	Same	35'	SEE NOTE 2 BELOW.
B97	Same	35'	SEE NOTE 2 BELOW.
B98	Same	35'	SEE NOTE 2 BELOW.
B99	Same	35'	SEE NOTE 2 BELOW.
B100	Same	35'	SEE NOTE 2 BELOW.

NOTE: 1. The ultimate taxiway designations shown in the above table reflect the recommended future airport taxiway designation configuration.
2. Existing Taxiway A, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, A49, A50, A51, A52, A53, A54, A55, A56, A57, A58, A59, A60, A61, A62, A63, A64, A65, A66, A67, A68, A69, A70, A71, A72, A73, A74, A75, A76, A77, A78, A79, A80, A81, A82, A83, A84, A85, A86, A87, A88, A89, A90, A91, A92, A93, A94, A95, A96, A97, A98, A99, A100, A101, A102, A103, A104, A105, A106, A107, A108, A109, A110, A111, A112, A113, A114, A115, A116, A117, A118, A119, A120, A121, A122, A123, A124, A125, A126, A127, A128, A129, A130, A131, A132, A133, A134, A135, A136, A137, A138, A139, A140, A141, A142, A143, A144, A145, A146, A147, A148, A149, A150, A151, A152, A153, A154, A155, A156, A157, A158, A159, A160, A161, A162, A163, A164, A165, A166, A167, A168, A169, A170, A171, A172, A173, A174, A175, A176, A177, A178, A179, A180, A181, A182, A183, A184, A185, A186, A187, A188, A189, A190, A191, A192, A193, A194, A195, A196, A197, A198, A199, A200, A201, A202, A203, A204, A205, A206, A207, A208, A209, A210, A211, A212, A213, A214, A215, A216, A217, A218, A219, A220, A221, A222, A223, A224, A225, A226, A227, A228, A229, A230, A231, A232, A233, A234, A235, A236, A237, A238, A239, A240, A241, A242, A243, A244, A245, A246, A247, A248, A249, A250, A251, A252, A253, A254, A255, A256, A257, A258, A259, A260, A261, A262, A263, A264, A265, A266, A267, A268, A269, A270, A271, A272, A273, A274, A275, A276, A277, A278, A279, A280, A281, A282, A283, A284, A285, A286, A287, A288, A289, A290, A291, A292, A293, A294, A295, A296, A297, A298, A299, A300, A301, A302, A303, A304, A305, A306, A307, A308, A309, A310, A311, A312, A313, A314, A315, A316, A317, A318, A319, A320, A321, A322, A323, A324, A325, A326, A327, A328, A329, A330, A331, A332, A333, A334, A335, A336, A337, A338, A339, A340, A341, A342, A343, A344, A345, A346, A347, 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EXISTING/ULTIMATE TAXIWAY SCHEDULE				
TAXIWAY DESIGNATION	WIDTH	COMMENTS		
EXISTING	ULTIMATE	EXIST.	ULT.	
A	Same	35'	50'	SEE NOTE 2 BELOW
A1	A1	35'	50'	SEE NOTE 2 BELOW
A2	A4	35'	50'	
A3	A5	40'	50'	SEE NOTE 2 BELOW
A4	A7	40'	50'	SEE NOTE 2 BELOW
A5	A8	50'	50'	
A6	A9	50'	50'	
A7	A10	50'	50'	
B	Same	35'	50'	SEE NOTE 2 BELOW
B1	B2	35'	50'	
B2	B3	35'	50'	
B3	B4	35'	50'	
B4	B5	35'	50'	
C	Same	40'	50'	
C1	C2	35'	50'	
C2	C3	35'	50'	
C3	C4	35'	50'	
C4	C5	35'	50'	
C5	C6	35'	50'	
C6	C7	35'	50'	
C7	C8	35'	50'	
C8	C9	35'	50'	
C9	C10	35'	50'	

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
---	---	AIRPORT PROPERTY LINE
+	+	AIRPORT REFERENCE POINT (ARP)
✱	✱	AIRPORT ROTATING BEACON
---	---	BUILDING CONSTRUCTION
---	---	BUILDING RESTRICTION LINE (BRL)
---	---	DIRT ROAD
---	---	DRAINAGE
---	---	FACILITY CONSTRUCTION
---	---	FENCING
---	---	NAVIGATIONAL AID INSTALLATION
---	---	RUNWAY END IDENTIFICATION LIGHTS (REIL)
---	---	RUNWAY THRESHOLD LIGHTS
---	---	RUNWAY EDGE LIGHTING - MRL
---	---	SECTION CORNER
---	---	SEGMENTED CIRCLE/WIND INDICATOR
---	---	TOPOGRAPHIC CONTOURS

BUILDINGS/FACILITIES		
EXISTING	ULTIMATE	DESCRIPTION
1	1	TERMINAL / FBO BUILDING
2	2	RESTAURANT
3	3	CONVENTIONAL HANGAR
4	4	T-HANGAR
5	5	REMOVED SHADE HANGAR
6	6	ELECTRICAL VAULT
7	7	WATER WELL
8	8	FUEL FACILITY
9	9	TERMINAL BUILDING
10	10	AIRCRAFT WASH RACK
11	11	AIRPORT RESCUE and FIREFIGHTING (ARFF)
12	12	FBO SITE
13	13	AWOS III
14	14	AUTO PARKING
15	15	AVIATION-RELATED LEASE PARCEL
16	16	AIRPORT MAINTENANCE BUILDING

TAXIWAY DESIGNATION LEGEND
A1 EXIST. TAXIWAY DESIGNATION
A2 ULT. TAXIWAY DESIGNATION
A3 EXIST./ULT. TAXIWAY DESIGNATION

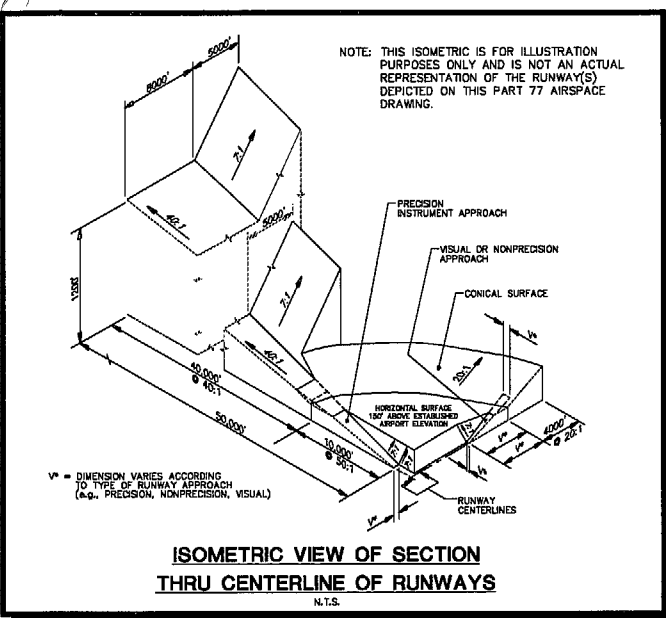
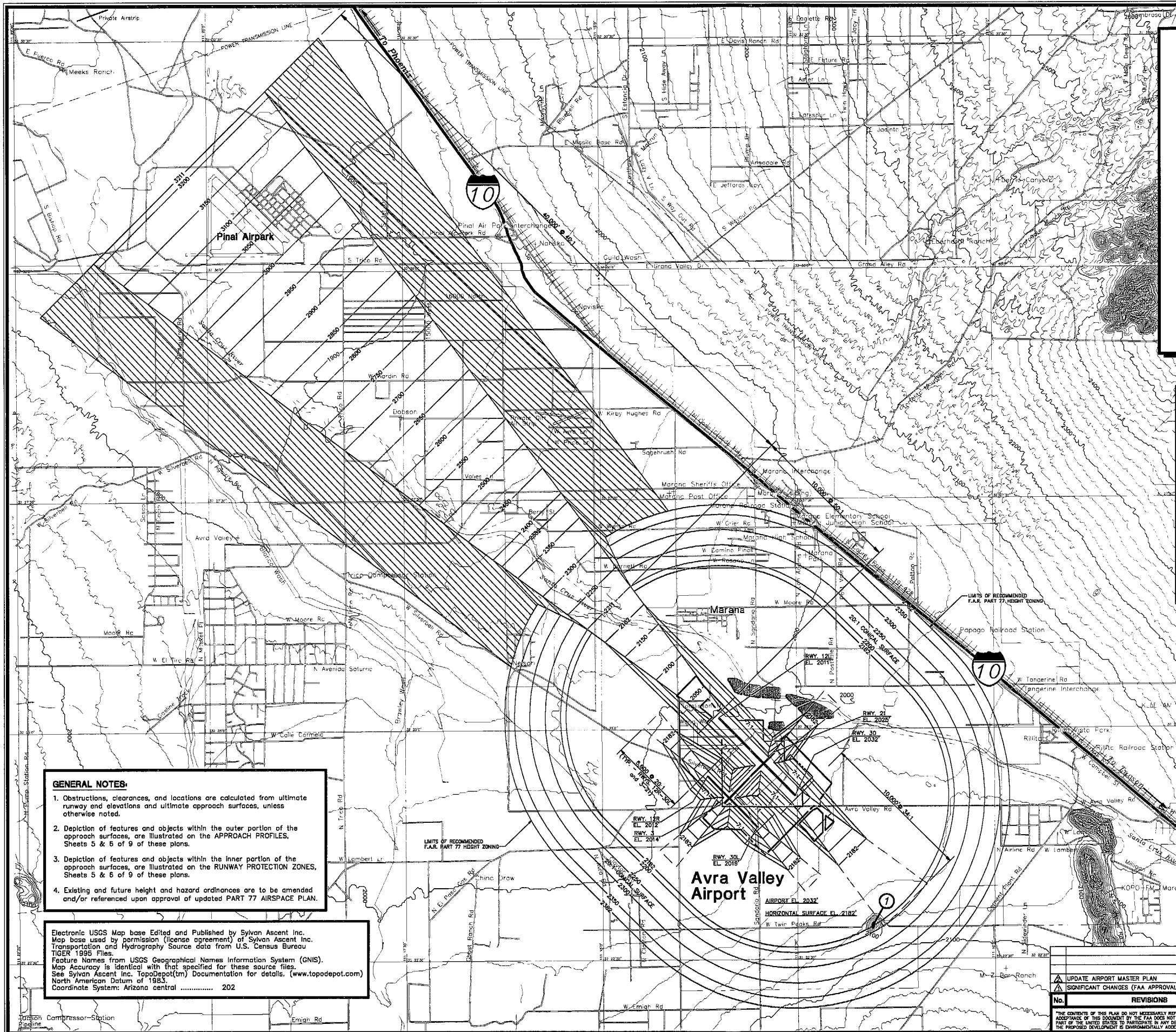
REVISIONS				
No.	REVISIONS	DATE	BY	APP'D.
1	UPDATE AIRPORT MASTER PLAN	2/18/88	JMH	FAA
2	SIGNIFICANT CHANGES (FAA APPROVAL - UNCONDITIONAL)	2/18/88	JMH	FAA

AVRA VALLEY AIRPORT
TERMINAL AREA PLAN
TOWN OF MARANA, PIMA COUNTY, ARIZONA

PLANNED BY: W.B. Holland/James M. Harris, P.E.
DETAILED BY: W.B. Holland
APPROVED BY: James M. Harris, P.E.

July 2, 1999 SHEET 3 OF 9

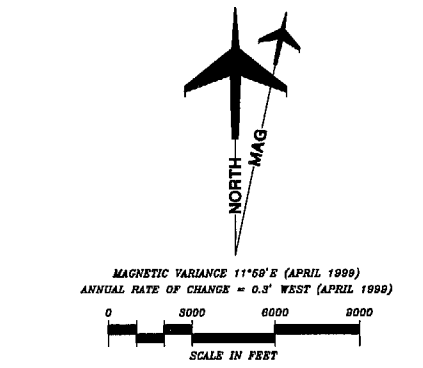
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Airport Consultants



OBSTRUCTION TABLE					
Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
Terrain	2200'	Horizontal/Conical	2182'	18'	Request FAA Aeronautical Study

- GENERAL NOTES:**
- Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
 - Depiction of features and objects within the outer portion of the approach surfaces, are illustrated on the APPROACH PROFILES, Sheets 5 & 6 of 9 of these plans.
 - Depiction of features and objects within the inner portion of the approach surfaces, are illustrated on the RUNWAY PROTECTION ZONES, Sheets 5 & 6 of 9 of these plans.
 - Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 AIRSPACE PLAN.

Electronic USGS Map base Edited and Published by Sylvan Ascent Inc. Map base used by permission (license agreement) of Sylvan Ascent Inc. Transportation and Hydrography Source data from U.S. Census Bureau TIGER 1995 Files. Feature Names from USGS Geographical Names Information System (GNIS). Map Accuracy is identical with that specified for these source files. See Sylvan Ascent Inc. TopoDePot(tm) Documentation for details. (www.topodepot.com) North American Datum of 1983. Coordinate System: Arizona central 202



AVRA VALLEY AIRPORT
PART 77 AIRSPACE PLAN
TOWN OF MARANA, PIMA COUNTY, ARIZONA

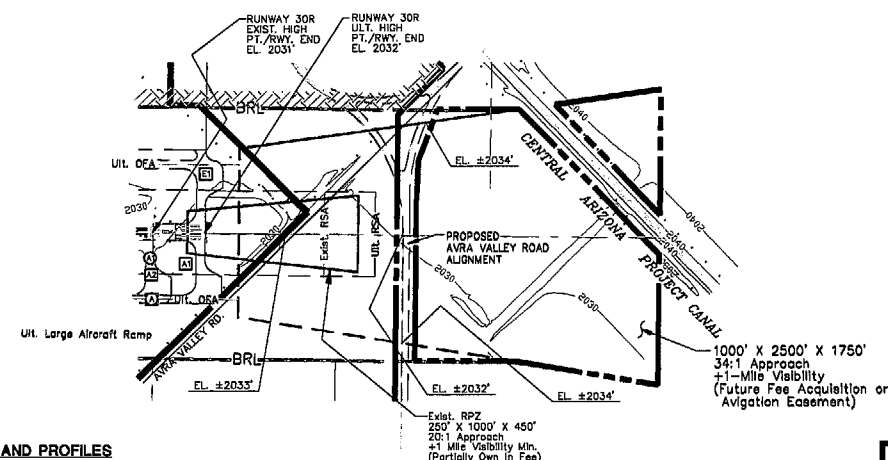
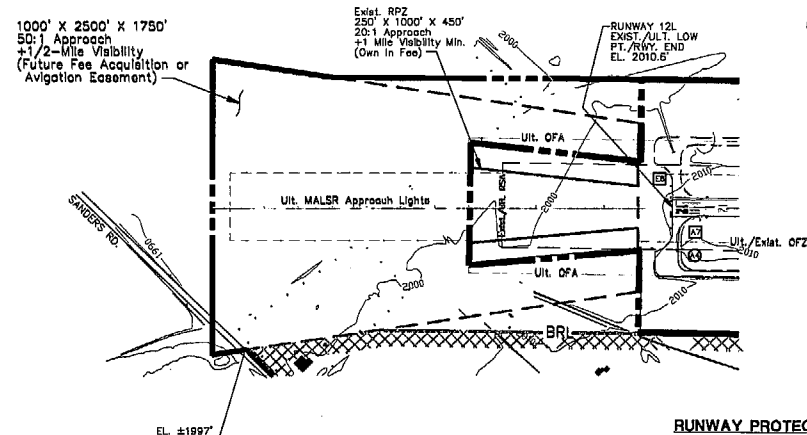
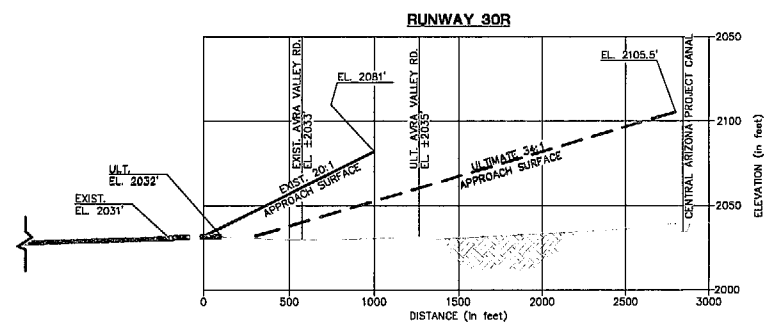
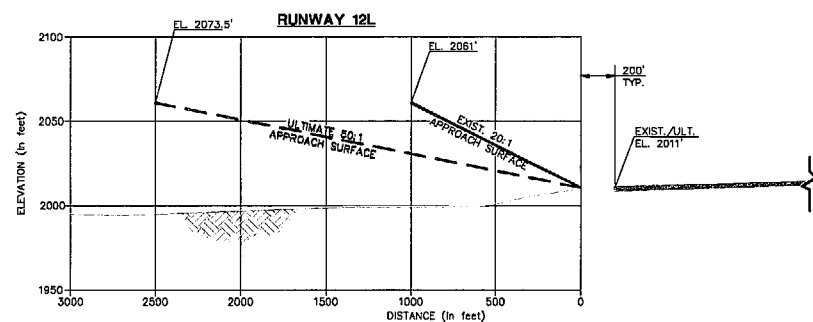
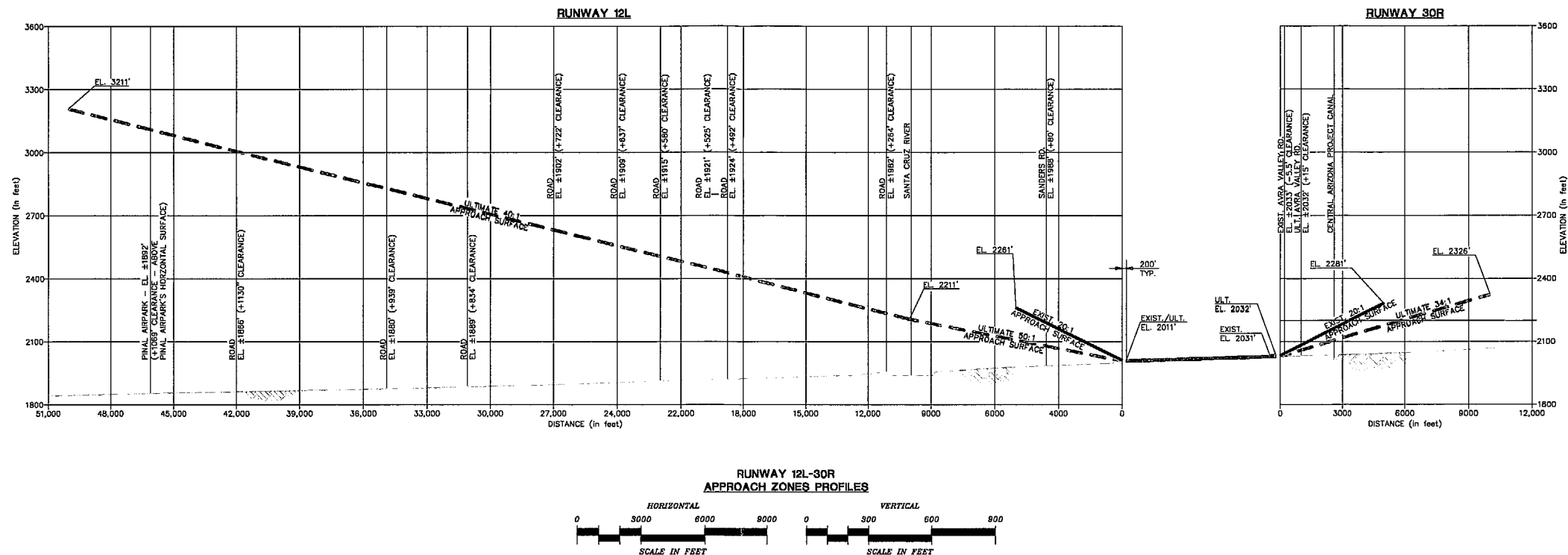
PLANNED BY: WS Holland/James M. Harris, P.E.
DETAILED BY: WS Holland
APPROVED BY: James M. Harris, P.E.

July 14, 1999 SHEET 4 OF 9

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Airport Consultants

REVISIONS			
No.	DATE	BY	APPD.
1	2/16/98	JMH	FAA
UPDATE AIRPORT MASTER PLAN			
SIGNIFICANT CHANGES (FAA APPROVAL - UNCONDITIONAL)			

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.



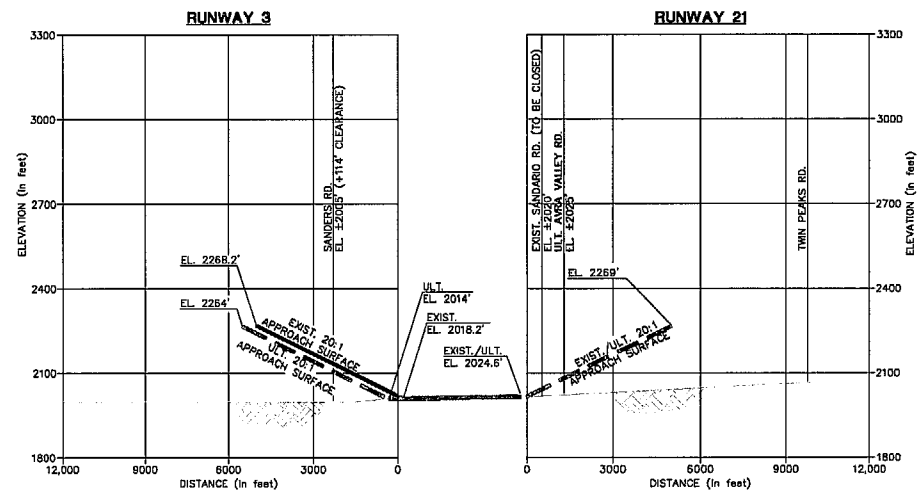
REVISIONS			
No.	REVISIONS	DATE	BY
1	UPDATE AIRPORT MASTER PLAN	2/18/98	JMH
2	PREVIOUS FAA APPROVAL (UNCONDITIONAL)		FAA

**AVRA VALLEY AIRPORT
APPROACH PROFILES &
RUNWAY PROTECTION ZONES
RUNWAY 12L-30R
TOWN OF MARANA, PIMA COUNTY, ARIZONA**

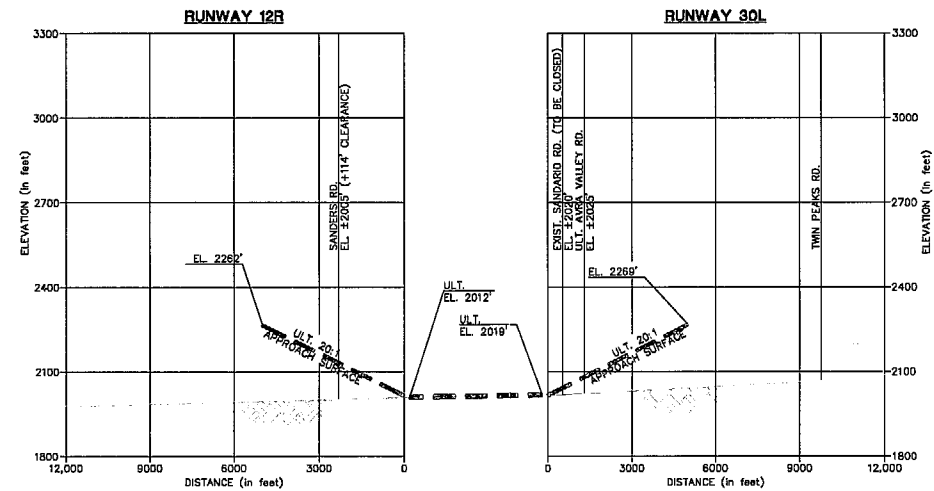
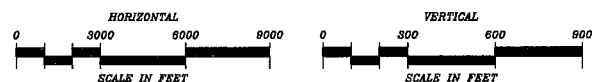
PLANNED BY: WS Holland/James M. Harris, P.E.
DETAILED BY: WS Holland
APPROVED BY: James M. Harris, P.E.

July 14, 1999 SHEET 5 OF 9

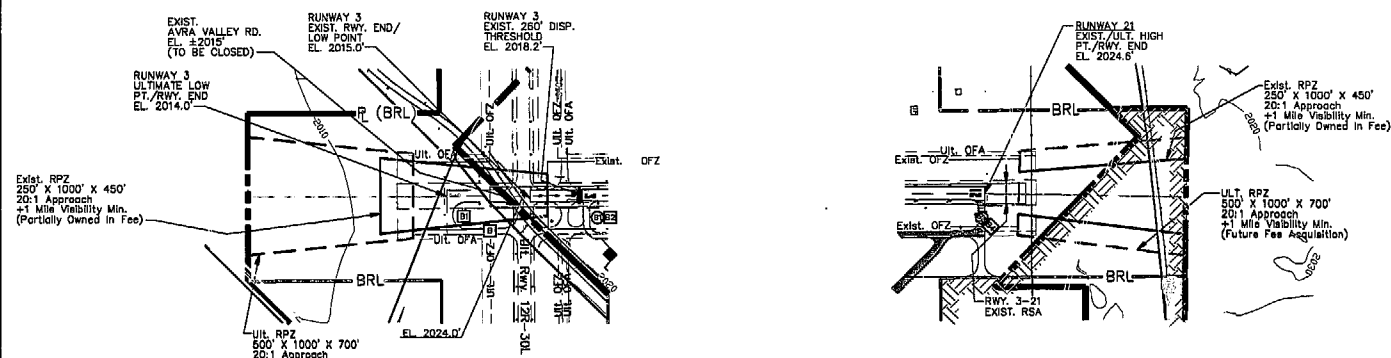
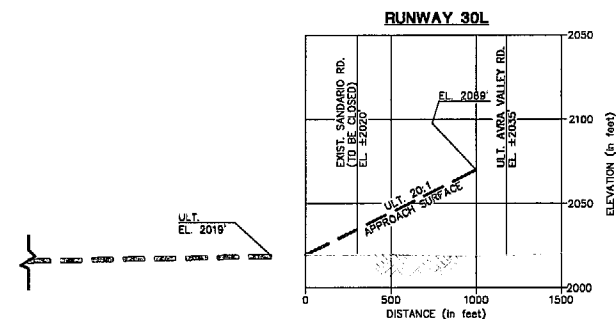
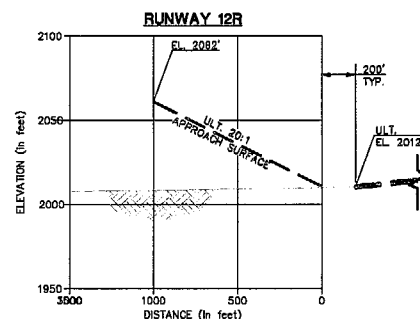
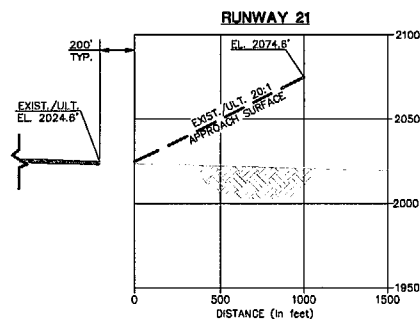
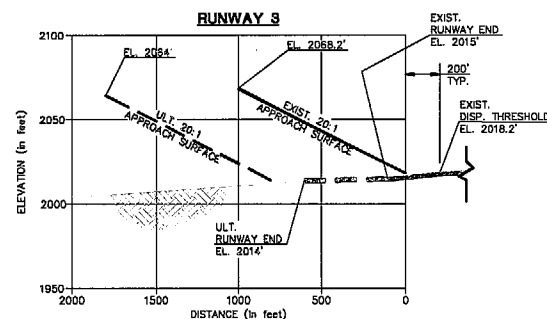
Coffman Associates
Airport Consultants



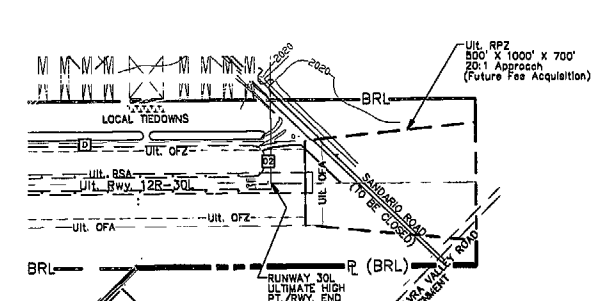
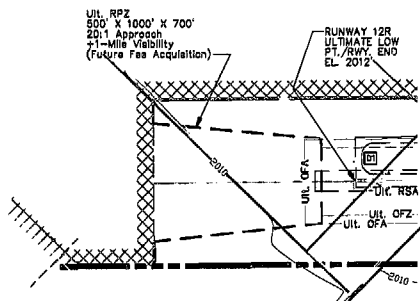
RUNWAY 3-21
APPROACH ZONES PROFILES



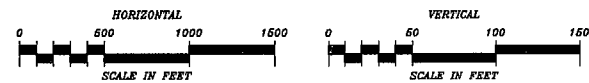
RUNWAY 12R-30L
APPROACH ZONES PROFILES



RUNWAY 3-21
RUNWAY PROTECTION ZONES PLANS AND PROFILES



RUNWAY 12R-30L
RUNWAY PROTECTION ZONES PLANS AND PROFILES



No.	REVISIONS	DATE	BY	APPD.
1	UPDATE AIRPORT MASTER PLAN	2/18/98	JMH	FAA
2	PREVIOUS FAA APPROVAL (UNCONDITIONAL)			

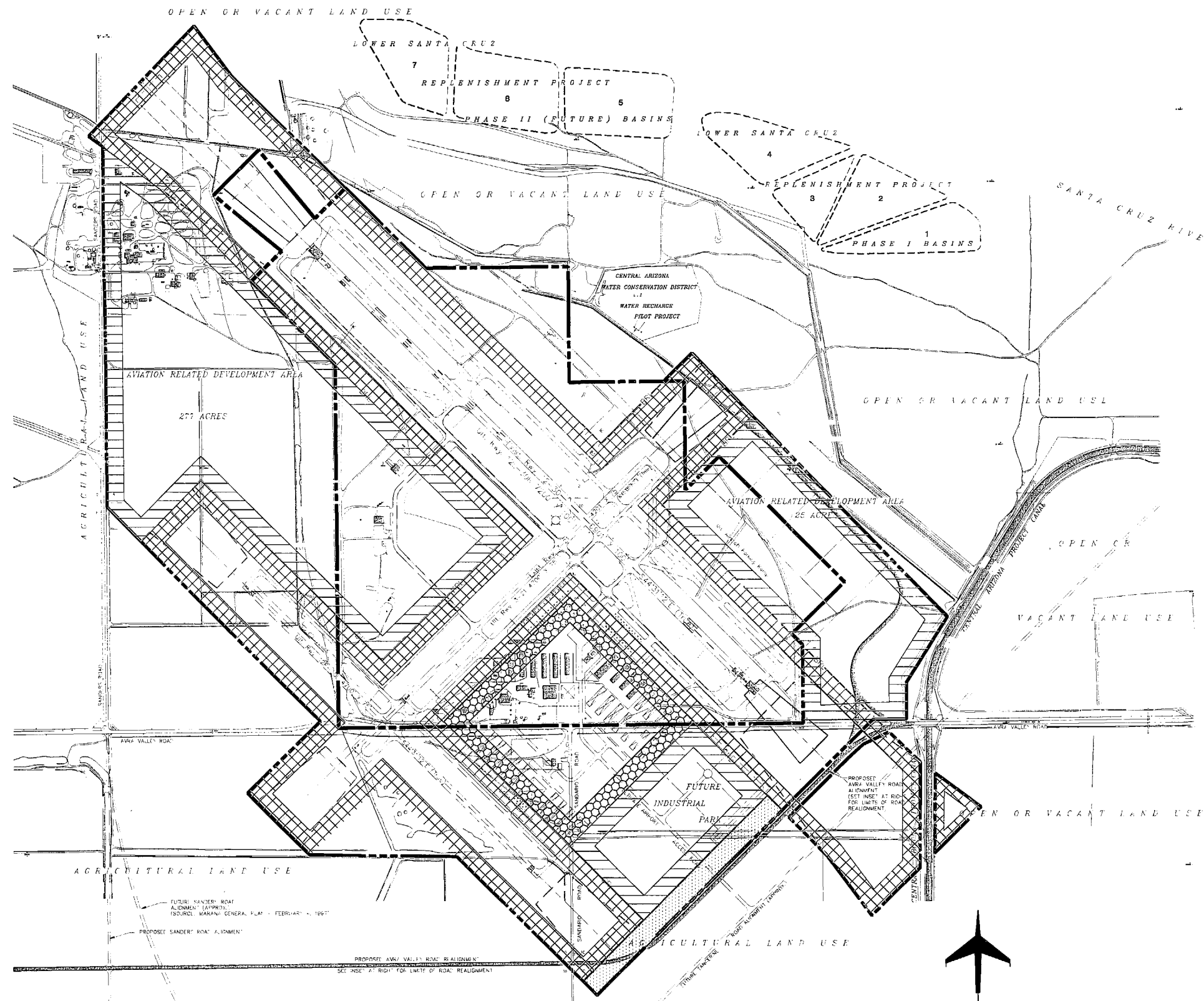
THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VERB OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT EXPEDITED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE FEDERAL LAWS.

AVRA VALLEY AIRPORT
APPROACH PROFILES &
RUNWAY PROTECTION ZONES
RUNWAY 3-21 and RUNWAY 12R-30L
TOWN OF MARANA, PIMA COUNTY, ARIZONA

PLANNED BY: WS Holland/James M. Harris, P.E.
DETAILED BY: WS Holland
APPROVED BY: James M. Harris, P.E.

July 14, 1999 SHEET 6 OF 9

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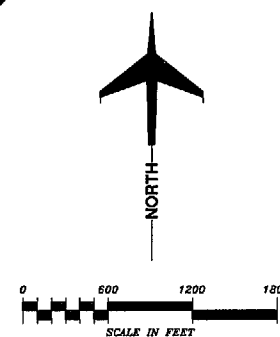


LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING CONSTRUCTION
		BUILDING RESTRICTION LINE (BRL)
		DIRT ROAD
		DRAINAGE
		FACILITY CONSTRUCTION
		FENCING
		NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY EDGE LIGHTING - MRL
		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR

LAND USE LEGEND:

	AO	AIRPORT OPERATIONS AREA (700 Acres)
	AR	AVIATION RELATED (450 Acres)
	GA	GENERAL AVIATION (90 Acres)
	OS	OPEN SPACE (15 Acres)

NOTE: Acres are approximate.

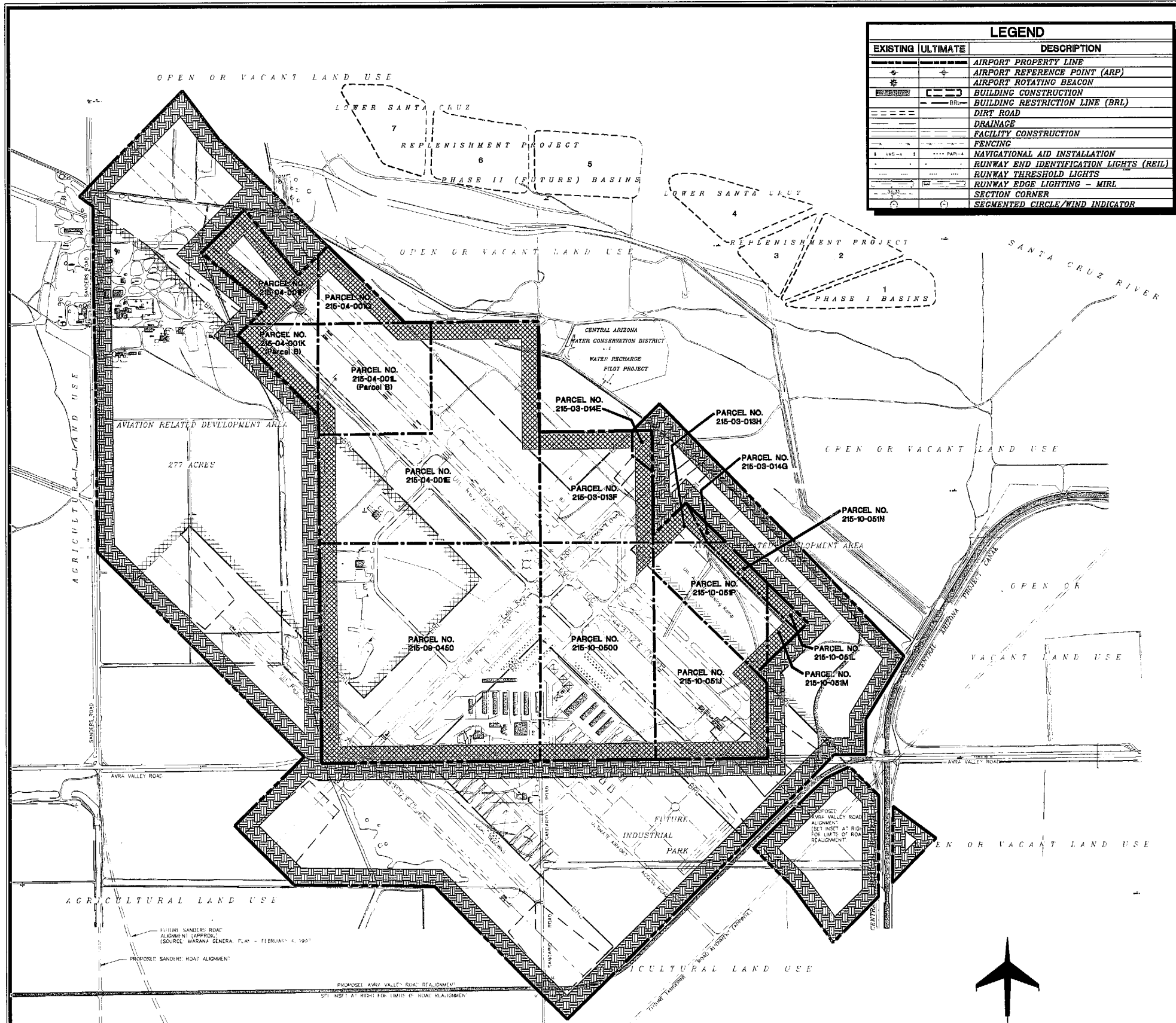


AVRA VALLEY AIRPORT ON-AIRPORT LAND USE PLAN TOWN OF MARANA, PIMA COUNTY, ARIZONA

REVISIONS			
No.	DATE	BY	APP'D.
1	2/18/99	JMH	FAA
2			
3			
4			
5			
6			
7			
8			
9			
10			

PLANNED BY: W.B. Holland/James M. Harris, P.E.
DETAILED BY: W.B. Holland
APPROVED BY: James M. Harris, P.E.
July 2, 1999

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LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
[Symbol]	[Symbol]	AIRPORT PROPERTY LINE
[Symbol]	[Symbol]	AIRPORT REFERENCE POINT (ARP)
[Symbol]	[Symbol]	AIRPORT ROTATING BEACON
[Symbol]	[Symbol]	BUILDING CONSTRUCTION
[Symbol]	[Symbol]	BUILDING RESTRICTION LINE (BRL)
[Symbol]	[Symbol]	DIRT ROAD
[Symbol]	[Symbol]	DRAINAGE
[Symbol]	[Symbol]	FACILITY CONSTRUCTION
[Symbol]	[Symbol]	FENCING
[Symbol]	[Symbol]	NAVIGATIONAL AID INSTALLATION
[Symbol]	[Symbol]	RUNWAY END IDENTIFICATION LIGHTS (REIL)
[Symbol]	[Symbol]	RUNWAY THRESHOLD LIGHTS
[Symbol]	[Symbol]	RUNWAY EDGE LIGHTING - MRL
[Symbol]	[Symbol]	SECTION CORNER
[Symbol]	[Symbol]	SEGMENTED CIRCLE/WIND INDICATOR

KEY:

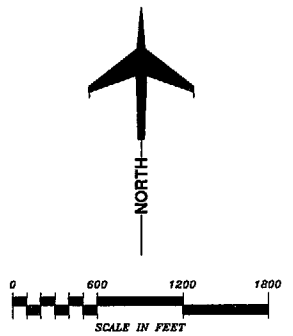
[Symbol] Existing Airport Property

[Symbol] Property To Be Acquired (730 Acres)

[Symbol] Parcel Boundary

Deed Recording Information (County Assessor - Pima County, AZ)				
Owner/Parcel Number	Acreage	Date Recorded	Recording Information	Grantor/Deed Type
Pima County 215-04-001E	±120	10/20/1982	Docket: 6890 Page: 852 Book: 215 Map: 04 Parcel: 001E	U.S. Bureau of Land Management/ Patent
Pima County 215-03-013F	±38	10/20/1982	Docket: 6890 Page: 852 Book: 215 Map: 03 Parcel: 013F	U.S. Bureau of Land Management/ Patent
Pima County 215-03-014E	±2.07	10/20/1982	Docket: 6890 Page: 852 Book: 215 Map: 03 Parcel: 0450	U.S. Bureau of Land Management/ Patent
Pima County 215-09-0450	±156.97	10/20/1982	Docket: 6890 Page: 852 Book: 215 Map: 09 Parcel: 001E	U.S. Bureau of Land Management/ Patent
Pima County 215-10-0500	±80	10/20/1982	Docket: 6890 Page: 852 Book: 215 Map: 10 Parcel: 0500	U.S. Bureau of Land Management/ Patent
Pima County 215-04-001K R/W# 16-99522	±12.62 (Parcel A)	12/30/1993	Docket: 9699 Page: 760 Sequence: 93233874 R.O.W. Number: 16-99522	State of Arizona/ Right-of-way Easement
Pima County 215-04-001L R/W# 16-99522	±40 (Parcel B)	12/30/1993	Docket: 9699 Page: 760 Sequence: 93233874 R.O.W. Number: 16-99522	State of Arizona/ Right-of-way Easement
Pima County 215-04-001P	±19.8	3/25/1992	Docket: 9255 Page: 1428 Book: 215 Map: 04 Parcel: 001P	BKW Farms, Inc./ Warranty
Pima County 215-04-001Q	±11.91	3/25/1992	Docket: 9255 Page: 1428 Book: 215 Map: 04 Parcel: 001Q	BKW Farms, Inc./ Warranty
Pima County 215-03-013H	±2.67	6/10/1996	Docket: 10312 Page: 479 Book: 215 Map: 04 Parcel: 013H	State of Arizona/ Patent
Pima County 215-03-014G	±0.97	6/10/1996	Docket: 10312 Page: 479 Book: 215 Map: 03 Parcel: 014G	State of Arizona/ Patent
Pima County 215-10-051J R/W# 16-96341	±48.99	7/20/1990	Docket: 8834 Page: 1392 Book: --- Map: --- Parcel: 051J	State of Arizona/ Right-of-way Easement
Pima County 215-10-051L	±2.47	6/10/1996	Docket: 10312 Page: 479 Sequence: 96097803 Map: --- Parcel: 051L	State of Arizona/ Patent
Pima County 215-10-051M	±2.95	6/10/1996	Docket: 10312 Page: 479 Sequence: 96097803 Map: --- Parcel: 051M	State of Arizona/ Patent
Pima County 215-10-051N	±2.52	6/10/1996	Docket: 10312 Page: 479 Sequence: 96097803 Map: --- Parcel: 051N	State of Arizona/ Patent
Pima County 215-10-051P	±24.84	6/10/1996	Docket: 10312 Page: 479 Sequence: 96097803 Map: --- Parcel: 051P	State of Arizona/ Patent
Total Acreage	±568.78			

Note: The total acreage shown in this table is the cumulative sum of the above described parcels, whose individual acreages were obtained from legal descriptions and other legal documents provided by Pima County. Additionally, the County provided a map titled "Boundary Survey for Avra Valley Airport", dated October 1994 which was prepared by the Pima County Department of Transportation, Survey Section. This "meets and bounds" survey map lists total airport acreage at 571.51 acres.



REVISIONS			
No.	DATE	BY	APPD.
1	7/18/98	JMH	FAA

AVRA VALLEY AIRPORT
AIRPORT PROPERTY MAP
TOWN OF MARANA, PIMA COUNTY, ARIZONA

PLANNED BY: W8 Holland/James M. Harris, P.E.
DETAILED BY: W8 Holland
APPROVED BY: James M. Harris, P.E.
July 2, 1999 SHEET 8 OF 9

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